



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/765,544	01/19/2001	Hwan J. Jeong	0980/63993	1429
7590		11/02/2004	EXAMINER	
Ivan S. Kavrukov		PALMER, PHAN T H		
Cooper & Dunham LLP		ART UNIT		
1185 Avenue of the Americas		PAPER NUMBER		
New York, NY 10036		2874		

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/765,544

Applicant(s)

JEONG HWAN ET AL.

Examiner

PHAN T.H. PALMER

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-30 and 43-47 is/are allowed.
- 6) ☒ Claim(s) 31 and 32 is/are rejected.
- 7) ☒ Claim(s) 33-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Phan T. H. Palmer
PHAN T. H. PALMER
PRIMARY EXAMINER
10 / 31 / 2004

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's cooperation is requested in correcting any error of which applicant may become aware in the specification.

Information Disclosure Statement

2. The information disclosure statement submitted on 01/19/2001, and 04/02/2001, have been considered by the examiner and made of record. See attached form PTO-1449.

Drawings

3. This application has been filed with formal drawings.

Specification

4. The abstract of the disclosure is objected to because it is too long (more than 150 word). Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 31 and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhou et al. (6,498,680).

The Zhou et al. discloses in figure 11, a compact tunable optical wavelength interleaver, comprising:

- a beam splitter (1103) for splitting an input beam (1101) into a first beam and a second beam;
- directing the first beam along a first path that includes a first resonant cavity;
- directing the second beam along a second path that includes a second resonant cavity; and
- interferometrically (1150) combining said first and second beams to produce an output beam.

With regard to claims 31 and 32, a method for filtering an input beam comprising a wavelength-division multiplexed (WDM) optical signal, comprising the steps of:

- * splitting the input beam into a first beam and a second beam;

- * directing the first beam along a first path that includes a first resonant cavity;
- * directing the second beam along a second path that includes a second resonant cavity; and
- * interferometrically combining said first and second beams to produce an output beam.
- * directing the input beam to a partially reflective surface oriented such that said first beam and said input beam form an angle that is less than 60 degrees, are disclosed in the Zhou et al reference.

Allowable Subject Matter

6. +++ Claims 33-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The Zhou et al reference does not disclose:

The method for filtering an input beam comprising a wavelength-division multiplexed (WDM) optical signal, wherein said WDM signal comprising "n" channels having center wavelengths at λ_1 , λ_2 , λ_3 , λ_4 , etc., and a channel spacing of Δf in Hz, wherein an optical path length traversed by said first beam along said first path differs from an optical path length traversed by said second beam along said second path such that, upon said step of interferometrically combining, said

Art Unit: 2874

output beam comprises a plurality of channels having center wavelengths at λ_1 , λ_3 , λ_5 , etc., and a free spectral range of $2\Delta f$ in Hz, as discloses in claims 33-42.

+++ Claims 1-32, and 43-47 are allowed. The claims are allowable over prior art of record, because none of the references in alone or in combination discloses an interleaver comprising a first and second resonant element for receiving and filtering first and second optical signal.

CONTACT INFORMATION

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHAN T.H. PALMER whose telephone number is (571) 272-2354. The examiner can normally be reached on 4/4 OFF MONDAY.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RODNEY B. BOVERNICK can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PTHP
10/31/2004


PHAN T. H. PALMER
PRIMARY EXAMINER